

REMARKS/ARGUMENTS

Reconsideration and withdrawal of the rejections of the application are respectfully requested in view of the above amendments and following remarks, which place the application into condition for allowance.

I. STATUS OF THE CLAIMS AND FORMAL MATTERS

Claims 1-14 are pending in this application. By this Amendment, claims 1, 9, 10, 11, and 12 are amended as outlined above, and claims 6-8 have been canceled without prejudice to their subsequent prosecution in any continuing application or disclaimer of the proprietary rights set forth therein. Support for these amendments can be found throughout the Specification, for example, see U.S. Patent Application Publication No. 2002/0074168 (“the instant application”) figures 5 and 6 and descriptive paragraph [0041].

II. THE REJECTIONS UNDER 35 U.S.C. § 102(e) and 35 U.S.C. § 103(a)

On page 2 of the Office Action, claims 1-8, 10-14 are rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by U.S. Patent No. 5.979.571 to Scott, et al. (“Scott”). Claim 9 is rejected as allegedly being unpatentable over Scott in view of U.S. Patent Application Publication No. 2002/0074168 to Matthias et al. (“Matthias”). The rejections are traversed for at least the following reasons.

The instant invention is directed to a tool insert comprising an ultra hard abrasive layer and a protective segment. Newly revised claim 1 incorporates the limitations of previously presented claim 8 and now recites, *inter alia*, a protective layer that forms a segment which is

bonded to the substrate adjacent the layer of ultra hard abrasive material. (Emphasis added.) As recited and illustrated in the instant application, at least in figures 5 and 6, and in paragraph [0041], a protective layer of, for example, tungsten carbide, forms a segment adjacent to the ultra hard abrasive and bonded to the substrate. The segment is sized and configured to protect the ultra hard abrasive while cutting, drilling, or milling through one substrate, for example ferrous casing material, and then to expose the ultra hard abrasive for drilling through the second substrate, for example subterranean rock. Figures 5 and 6 depict the segment located adjacent to the ultra hard abrasive but not atop any portion of the ultra hard abrasive.

In contrast, as presently understood by Applicants' attorneys, the portion of Scott relied upon in the Office Action is directed to a combination milling tool and drill bit comprising a composite insert including a polycrystalline diamond (PCD) body with a thin durable coating deposited over the diamond body. The Office Action refers to figure 11 and column 5, starting at line 60, which describes the coating deposited on the polycrystalline diamond and the processes appropriate for depositing the protective coating. As illustrated in figure 11, a coating is formed over the diamond, rather than as a segment in the instant invention.

Instant claim 1 has further been amended to remove the recitation of a protective layer bonded to the top surface of the ultra hard abrasive in order to further distinguish over the cited reference. Presently, instant claim 1 is not directed to a protective coating of the ultra hard abrasive, but to providing an additional structural element, as shown in instant figures 5 and 6, which is bonded to, or integral with, a side surface of the substrate. Therefore, the ultra hard abrasive remains uncoated. Consequently, the instant invention is new and not anticipated by the cited reference.

On page 3 of the Office Action, claim 9 is rejected under § 103(a) as unpatentable over Scott in view of Matthias. Presently amended claim 9 discloses a cutting tool insert comprising an ultra hard abrasive material layer and a protective layer as recited in claim 1, wherein the layer of ultra hard abrasive material and the protective layer are provided as a plurality of alternating ultra hard abrasive material strips and protective layer strips on the substrate. By amending instant claim 9 as instant claim 1, the instant invention is distinguished over the cited portions of the Scott reference.

As further recited in revised instant claim 9, the alternating strips of protective and ultra hard abrasive materials represent regions of different materials, with the protective layer suitable for cutting, drilling, and milling of ferrous substrates, and the ultra hard abrasive suitable for boring through rock.

Conversely, as presently understood by Applicants' attorneys, Matthias relates to cutters comprising polycrystalline working surfaces of varied wear resistance in which the differing wear resistances are achieved through selective heat treating of regions of the cutting element. The alternating strips of ultra hard and protective layers referenced in the Office Action are regions of PCD possessing different wear characteristics. Although the wear characteristics are different, the material is the same. The wholly PCD region of Matthias would not be suitable for the milling and drilling applications of the instant invention. It is well known in the art that PCD material, regardless of wear characteristics, is not appropriate for contact with a ferrous substrate because of reactions between the ferrous substrate and the PCD which are detrimental to the PCD.

Consequently, a skilled artisan confronted with the problem faced by the Applicants, namely the need to bore through a ferrous substrate followed by boring through a substrate of subterranean rock, would have been directed away from the teaching of Matthias because it would have been known that a wholly PCD work surface would not be suitable for boring through a ferrous substrate. Because Matthias fails to correct the deficiencies of the Scott reference and, in fact, teaches away from the claimed invention, Applicants' attorneys respectfully submit that the Section 103(a) rejection is improper and request that the Section 103(a) rejection be withdrawn.

Statements appearing above with respect to the disclosures in the cited references represent the present opinion of the Applicants' undersigned attorney and, in the event that the Examiner disagrees with any such opinions, it is respectfully requested that the Examiner specifically indicate those portions of the respective reference providing the basis for such a contrary view.

CONCLUSION

In view of the foregoing, it is believed that all of the claims in this application are patentable over the prior art. Accordingly, Applicants' attorneys respectfully request that a timely Notice of Allowance be issued in this case.

Please charge any fees incurred by reason of this response and not paid herewith to Deposit Account No. 50-0320.

Respectfully submitted,
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